

ESCHERICHIA COLI STRAIN SECRETING HUMAN GRANULOCYTE...

Sang-Yup Lee

Appl. No.: 10/009,792 Atty Docket: HYLEE60.001APC

Replacement Sheet

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1 ATG GCT GGA CCT GCC ACC CAG AGC CCC ATG AAG CTG ATG GCC CTG 45
46 CAG CTG CTG AGT GCA CTC TGG ACA GTG CAG GAA GCC ACC 90
91 CCC CTG GGC CCT GCC AGC TCC CTG CCC CAG AGC TTC CTG CTC AAG 135
136 TGC TTA GAG CAA GTG AGG AAG ATC CAG GGC GAT GGC GCG CTC 180
181 CAG GAG AAG CTG GCA GGC TGC TTG AGC CAA CTC CAT AGC GGC CTT 225
226 TTC CTC TAC CAG GGG CTC CTG CAG GCC CTG GAA GGG ATC TCC CCC 270
271 GAG TTG GGT CCC ACC TTG GAC ACA CTG CAG CTG GAC GTC GCC GAC 315
316 TTT GCC ACC ACC ATC TGG CAG CAG ATG GAA GAA CTG GGA ATG GCC 360
361 CCT GCC CTG CAG CCC ACC CAG GGT GCC ATG CCG GCC TTC GCC TCT 405
406 GCT TTC CAG CGG CGG GCA GGA GGG GTC CTA GTT GCC TCC CAT CTG 450
451 CAG AGC TTC CTG GAG GTG TCG TAC CGC GTT CTA CGC CAC CTT GCC CAC 495
496 CAG CCC TAA TAA stop codon (see: SEQ ID NO: 17)

FIG. 1

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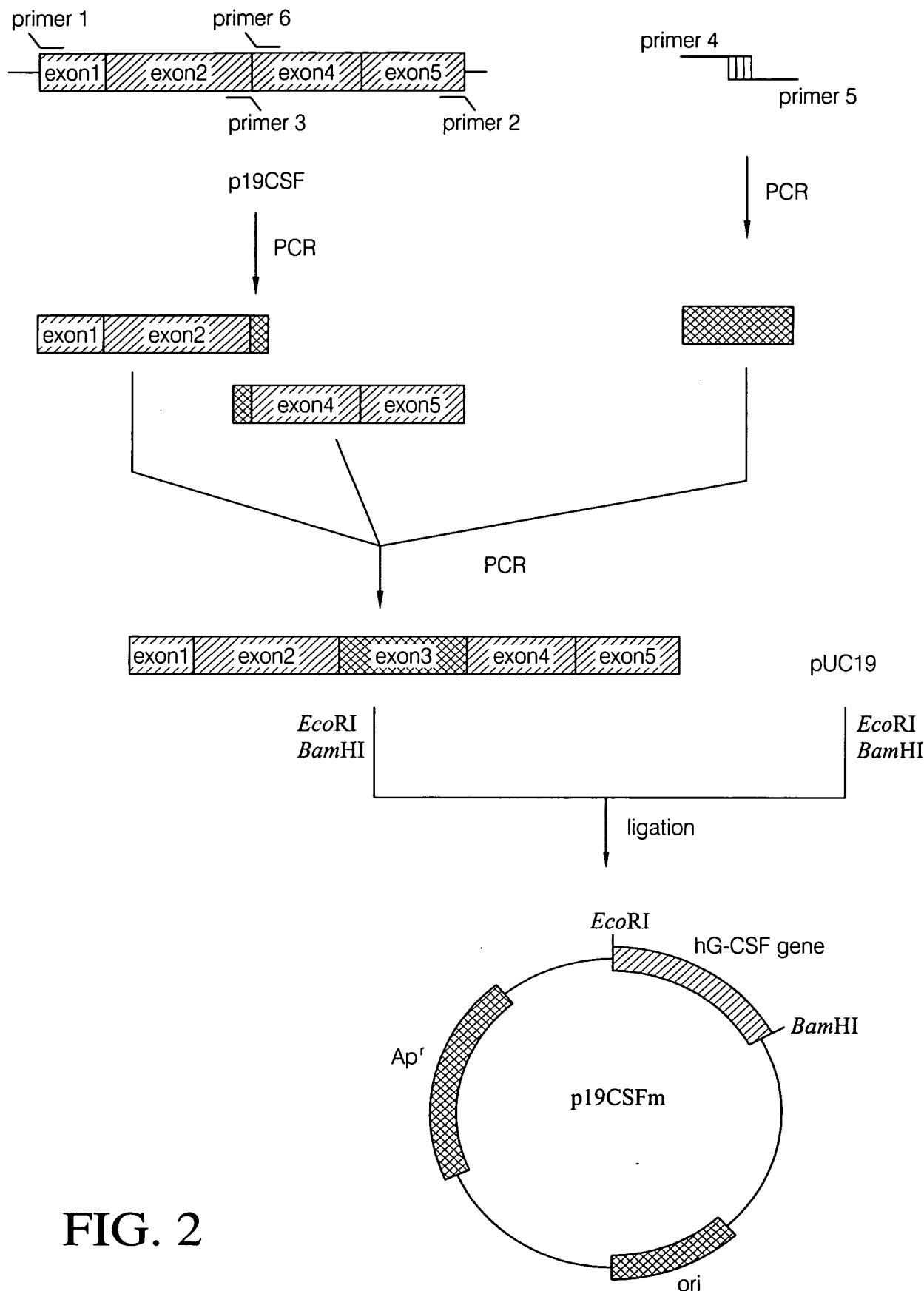


FIG. 2

ESCHERICHIA COLI STRAIN SECRETING HUMAN GRANULOCYTE...

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-30		-16
1 ATG GCT GGA CCT GCC ACC CAG AGC CCC ATG AAG CTG ATG GCC CTG	45	
-15		
46 CAG CTG CTG CTG TGG AGT GCA CTC TGG ACA GTG CAG GAA GCC ACC	-1	+1
		Thr
2		
91 CCC CTG GGC CCT GCC AGC TCC CTG CCC CAG AGC TTC CTG CTC AAG	135	16
Pro Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys		
17		
136 TGC TTA GAG CAA GTG AGG AAG ATC CAG GGC GAT GGC GCA GCG CTC	180	31
Cys Leu Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu		
32		
181 CAG GAG AAG CTG TGT GCC ACC TAC AAG CTG TGC CAC CCC GAG GAG	225	46
Gln Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu		
47		
226 CTG GTG CTG CTC GGA CAC TCT CTG GGC ATC CCC TGG GCT CCC CTG	270	61
Leu Val Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu		
62		
271 AGC AGC TGC CCC AGC CAG GCC CTG CAG CTG GCA GGC TGC TTG AGC	315	76
Ser Ser Cys Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser		
77		
316 CAA CTC CAT AGC GGC CTT TTC CTC TAC CAG GGG CTC CTG CAG GCC	360	91
Gln Leu His Ser Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala		
92		
361 CTG GAA GGG ATC TCC CCC GAG TTG GGT CCC ACC TTG GAC ACA CTG	405	106
Leu Glu Gly Ile Ser Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu		
107		
406 CAG CTG GAC GTC GCC GAC TTT GCC ACC ACC ATC TGG CAG CAG ATG	450	121
Gln Leu Asp Val Ala Asp Phe Ala Thr Thr Ile Trp Gln Gln Met		
122		
451 GAA GAA CTG GGA ATG GCC CCT GCC CTG CAG CCC ACC CAG GGT GCC	495	136
Glu Glu Leu Gly Met Ala Pro Ala Leu Gln Pro Thr Gln Gly Ala		
137		
496 ATG CCG GCC TTC GCC TCT GCT TTC CAG CGC CGG GCA GGA GGG GTC	540	151
Met Pro Ala Phe Ala Ser Ala Phe Gln Arg Arg Ala Gly Val		
152		
541 CTA GTT GCC TCC CAT CTG CAG AGC TTC CTG GAG GTG TCG TAC CGC	585	166
Leu Val Ala Ser His Leu Gln Ser Phe Leu Glu Val Ser Tyr Arg		
167 174		
586 GTT CTA CGC CAC CTT GCC CAG CCC <u>TAA TAA</u>		616
Val Leu Arg His Leu Ala Gln Pro stop codon		

(see: SEQ ID NO: 18)
 (see: SEQ ID NO: 19)

FIG. 3

ESCHERICHIA COLI STRAIN SECRETING HUMAN GRANULOCYTE...

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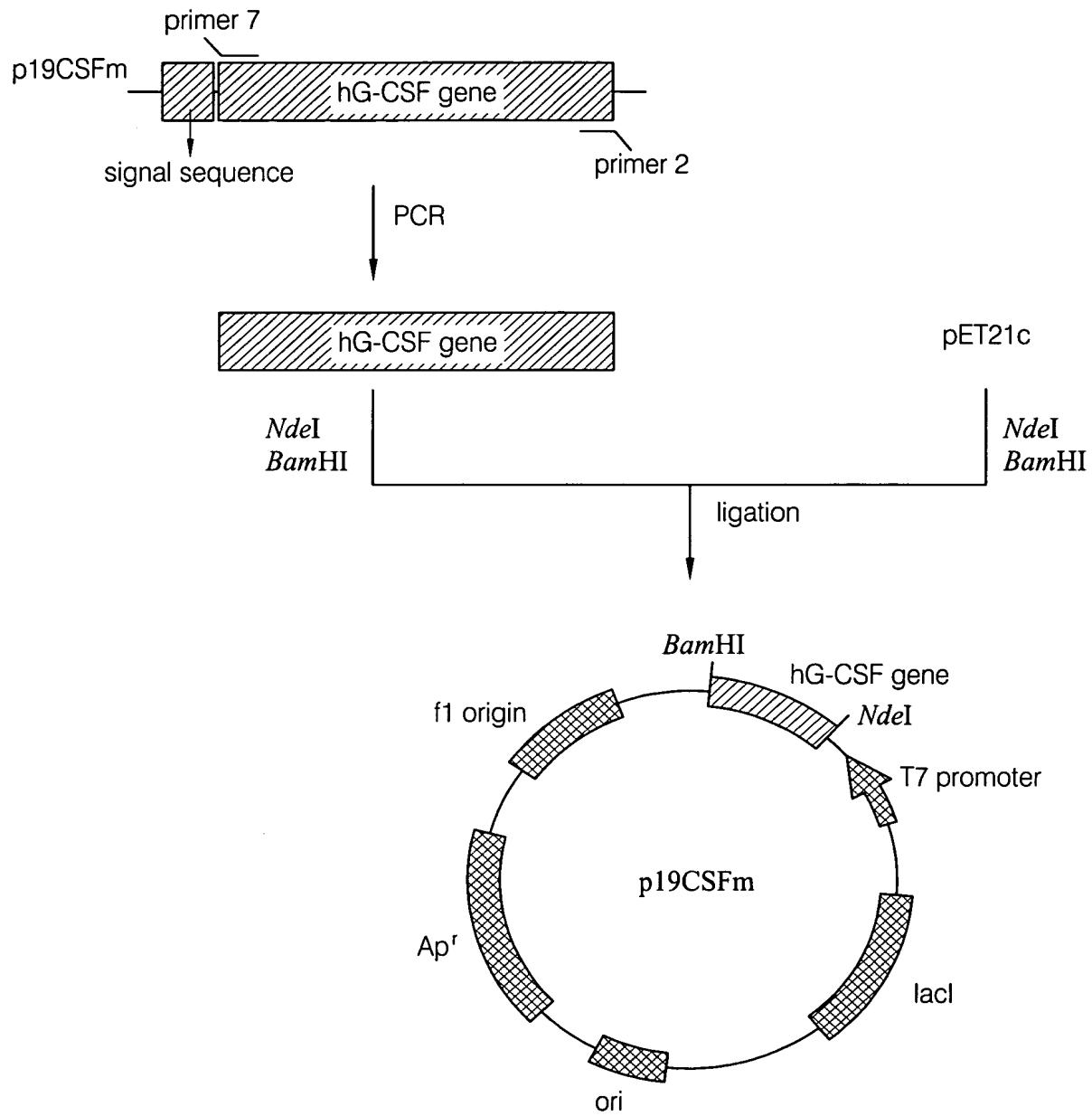


FIG. 4

ESCHERICHIA COLI STRAIN SECRETING HUMAN GRANULOCYTE...

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1	15
1 ATG ACC CCC CTG GGC CCT GCC AGC TCC CTG CCC CAG AGC TTC CTG Met Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu	45
16	30
46 CTC AAG TGC TTA GAG CAA GTG AGG AAG ATC CAG GGC GAT GGC GCA Leu Lys Cys Leu Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala	90
31	45
91 GCG CTC CAG GAG AAG CTG TGT GCC ACC TAC AAG CTG TGC CAC CCC Ala Leu Gln Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro	135
46	60
136 GAG GAG CTG GTG CTG CTC GGA CAC TCT CTG GGC ATC CCC TGG GCT Glu Glu Leu Val Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala	180
61	75
181 CCC CTG AGC AGC TGC CCC AGC CAG GCC CTG CAG CTG GCA GGC TGC Pro Leu Ser Ser Cys Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys	225
76	90
226 TTG AGC CAA CTC CAT AGC GGC CTT TTC CTC TAC CAG GGG CTC CTG Leu Ser Gln Leu His Ser Gly Leu Phe Leu Tyr Gln Gly Leu Leu	270
91	105
271 CAG GCC CTG GAA GGG ATC TCC CCC GAG TTG GGT CCC ACC TTG GAC Gln Ala Leu Glu Gly Ile Ser Pro Glu Leu Gly Pro Thr Leu Asp	315
106	120
316 ACA CTG CAG CTG GAC GTC GCC GAC TTT GCC ACC ACC ATC TGG CAG Thr Leu Gln Leu Asp Val Ala Asp Phe Ala Thr Thr Ile Trp Gln	360
121	135
361 CAG ATG GAA GAA CTG GGA ATG GCC CCT GCC CTG CAG CCC ACC CAG Gln Met Glu Glu Leu Gly Met Ala Pro Ala Leu Gln Pro Thr Gln	405
136	150
406 GGT GCC ATG CCG GCC TTC GCC TCT GCT TTC CAG CGC CGG GCA GGA Gly Ala Met Pro Ala Phe Ala Ser Ala Phe Gln Arg Arg Ala Gly	450
151	165
451 GGG GTC CTA GTT GCC TCC CAT CTG CAG AGC TTC CTG GAG GTG TCG Gly Val Leu Val Ala Ser His Leu Gln Ser Phe Leu Glu Val Ser	495
166	175
496 TAC CGC GTT CTA CGC CAC CTT GCC CAG CCC <u>TAA TAA</u> Tyr Arg Val Leu Arg His Leu Ala Gln Pro stop codon	531

(see: SEQ ID NO: 20)
 (see: SEQ ID NO: 21)

FIG. 5

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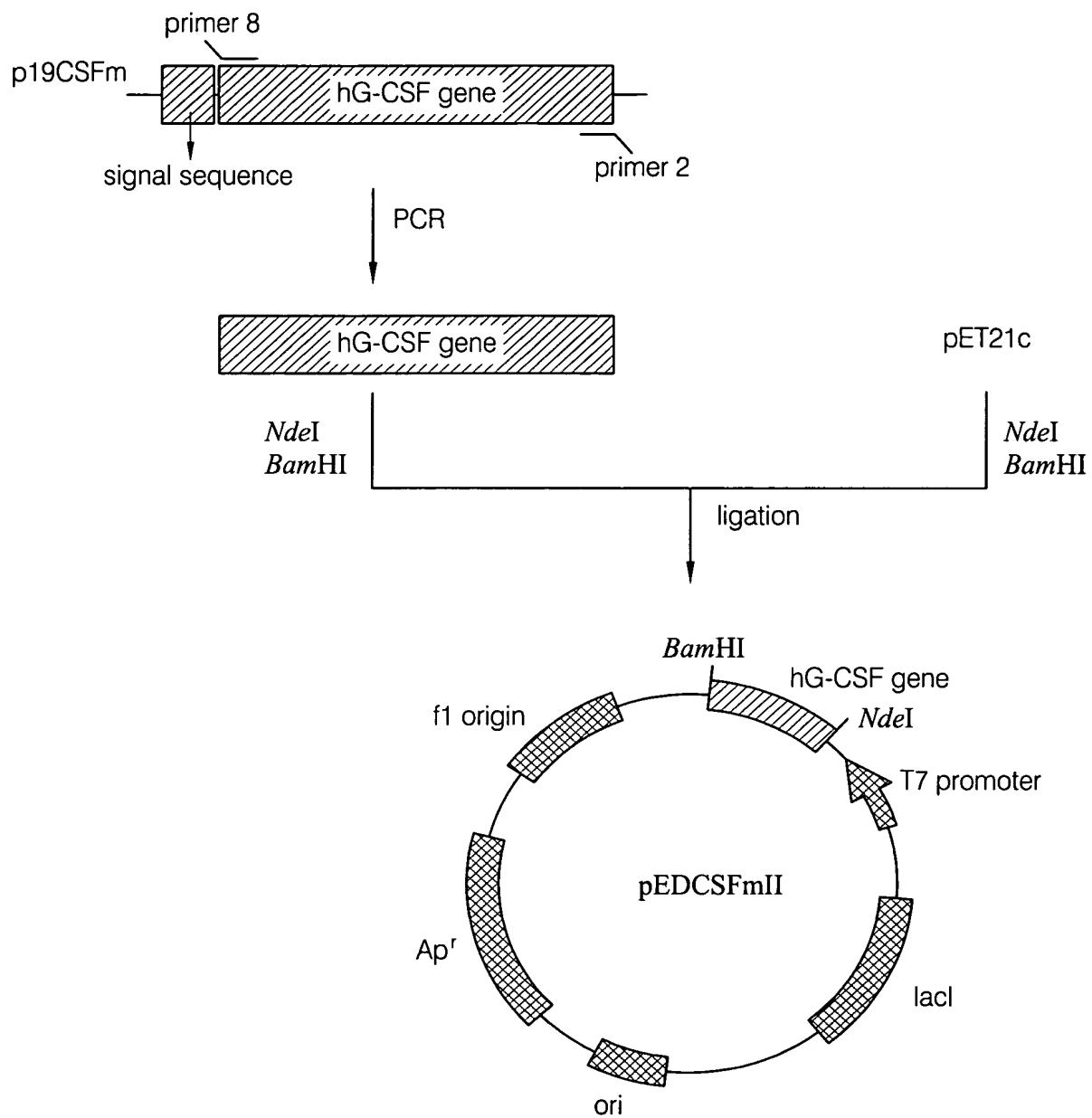


FIG. 6

ESCHERICHIA COLI STRAIN SECRETING HUMAN GRANULOCYTE...

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1 ATG ACT CCG TTA GGT CCA GCC AGC TCC CTG CCC CAG AGC TTC CTG
Met Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu
15 45

(see: SEQ ID NO: 22)
(see: SEQ ID NO: 23)

FIG. 7

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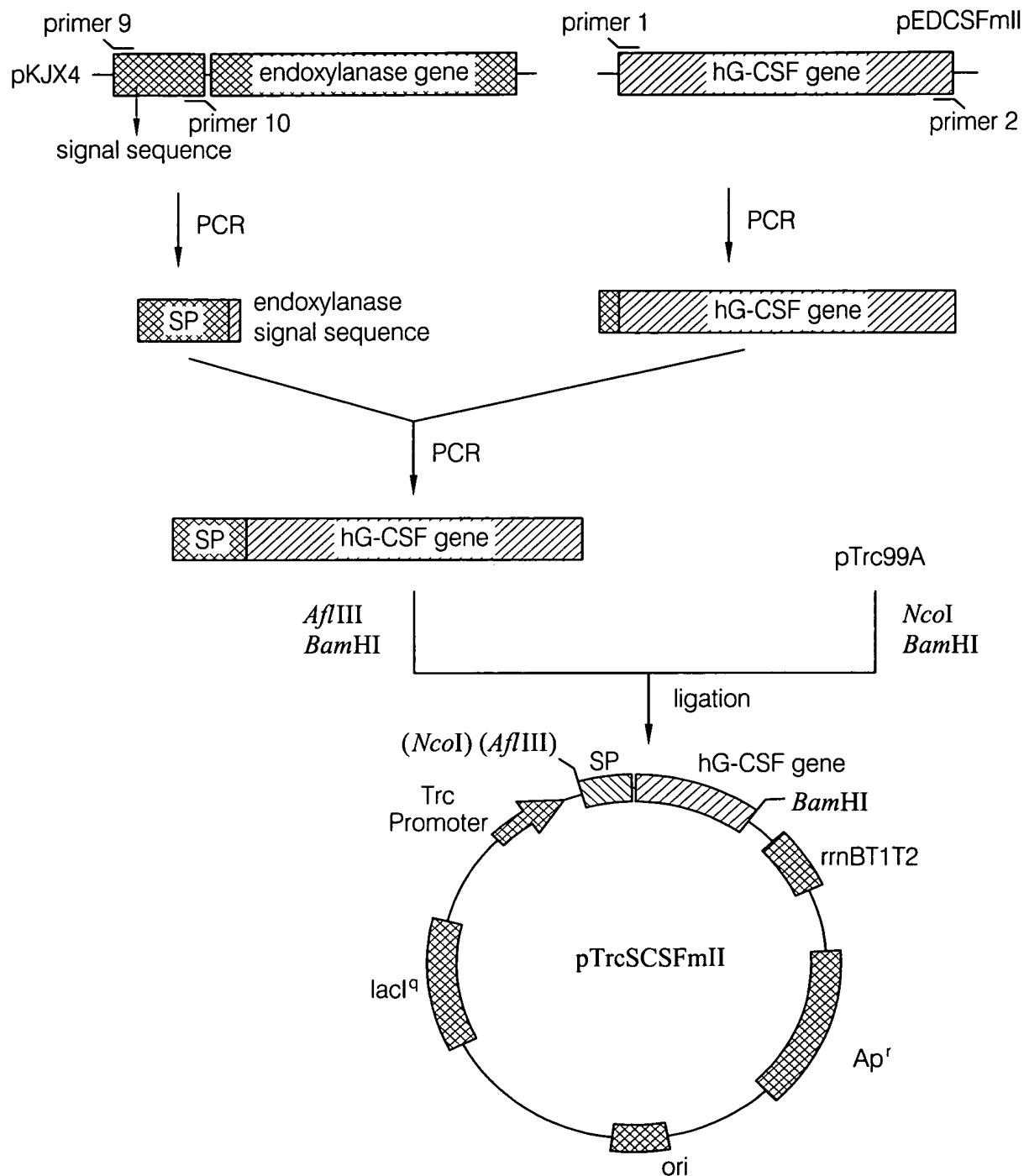


FIG. 8

ESCHERICHIA COLI STRAIN SECRETING HUMAN GRANULOCYTE...

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-28
1 ATG TTT AAG TTT AAA AAG AAA TTC TTA GTG GCA TTA ACG GCA GCT -14
Met Phe Lys Phe Lys Lys Phe Leu Val Gly Leu Thr Ala Ala 45

-13
46 TTG ATG AGT ATC AGC ATG TTT TCT GCA ACC GCC TCT GCA ACT CCG 90
Phe Met Ser Ile Ser Met Phe Ser Ala Thr Ala Ser Ala Thr Pro

3
91 TTA GGT CCA GCC AGC TCC CTG CCC CAG AGC TTC CTG CTC AAG TGC 135
Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys Cys

(see: SEQ ID NO: 24)
(see: SEQ ID NO: 25)

FIG. 9

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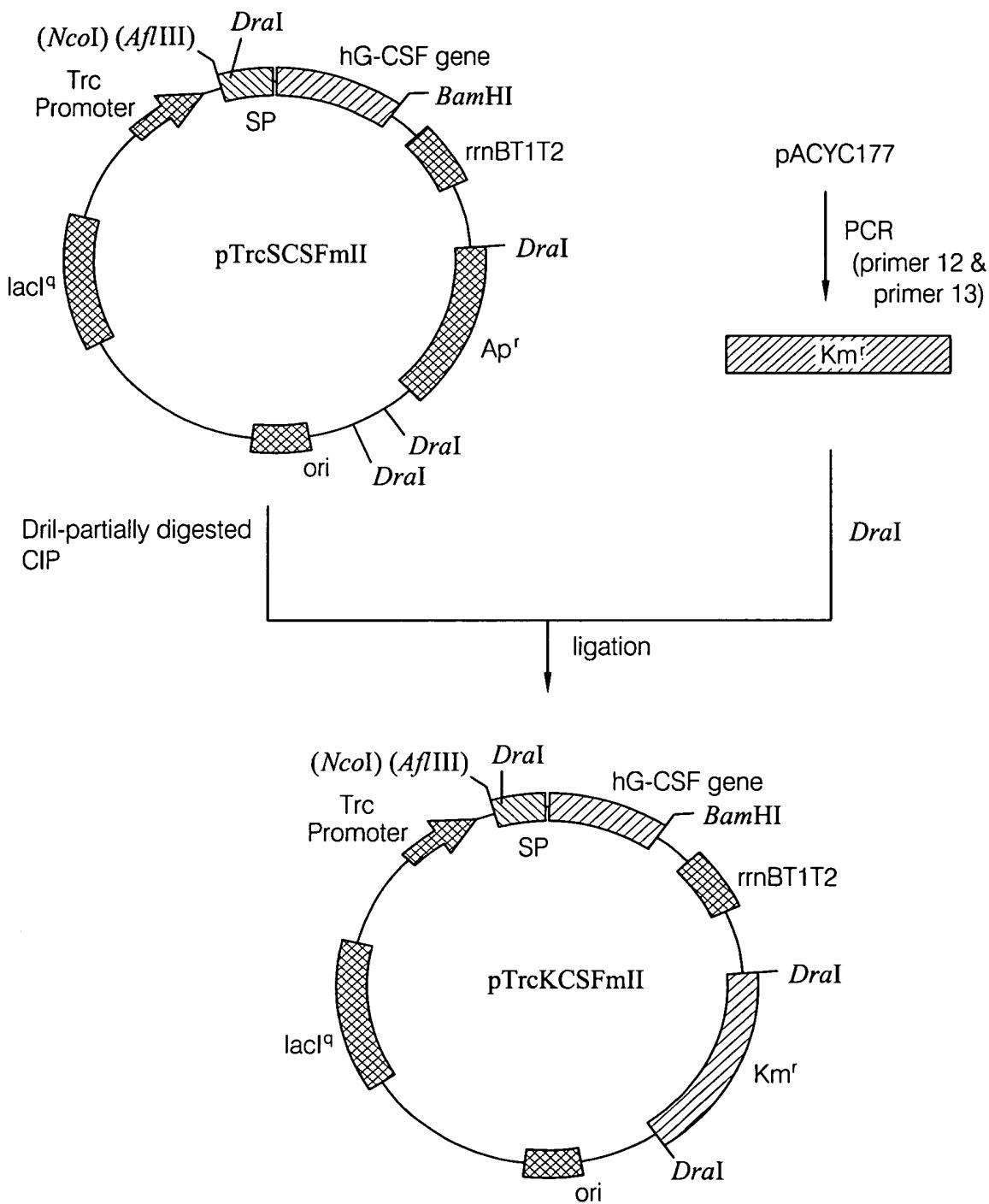


FIG. 10

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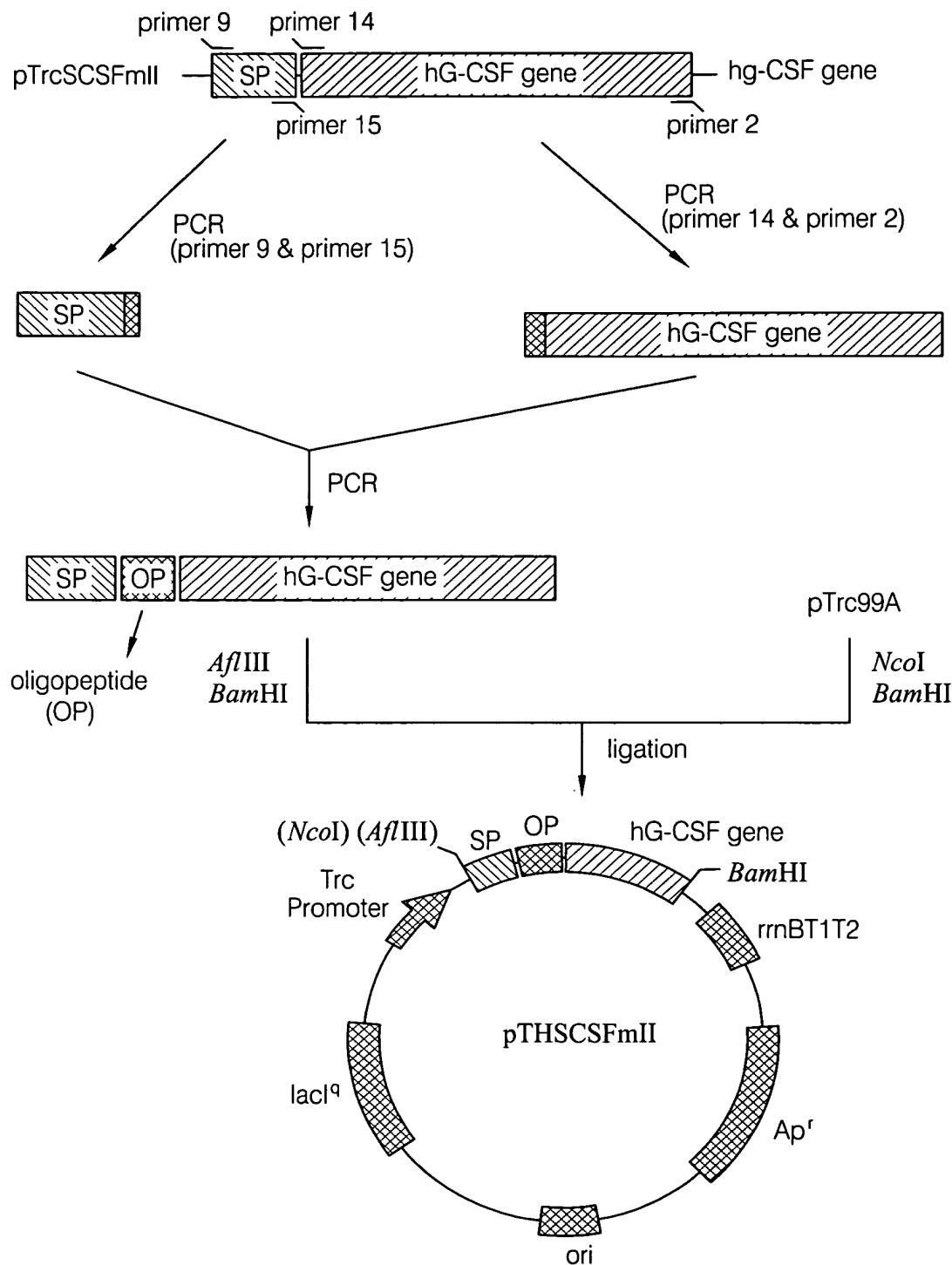


FIG. 11

ESCHERICHIA COLI STRAIN SECRETING HUMAN GRANULOCYTE...

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-28
1 ATG TTT AAG TT AAA AAG AAA TTC TTA GTG GGA TTA ACG GCA GCT 45
Met Phe Lys Phe Lys Lys Phe Leu Val Gly Leu Thr Ala Ala Ala

-13
46 TTC ATG AGT ATC AGC ATG TTT TCT GCA ACC GCC TCT GCA GCT GGC 90
Phe Met Ser Ile Ser Met Phe Ser Ala Thr Ala Ser Ala **Ala Gly**

3
91 CCG CAC CAT CAC CAT CAC CAT ATC GAG GGA AGG ACT CCG TTA GGT 135
Pro His His His His Ile Glu Gly Arg Thr Pro Leu Gly

18
136 CCA GCC AGC TCC CTG CCC CAG AGC TTC CTG CTC AAG TGC TTA GAG 180
Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys Cys Leu Glu

(see: SEQ ID NO: 26)
(see: SEQ ID NO: 27)

FIG. 12

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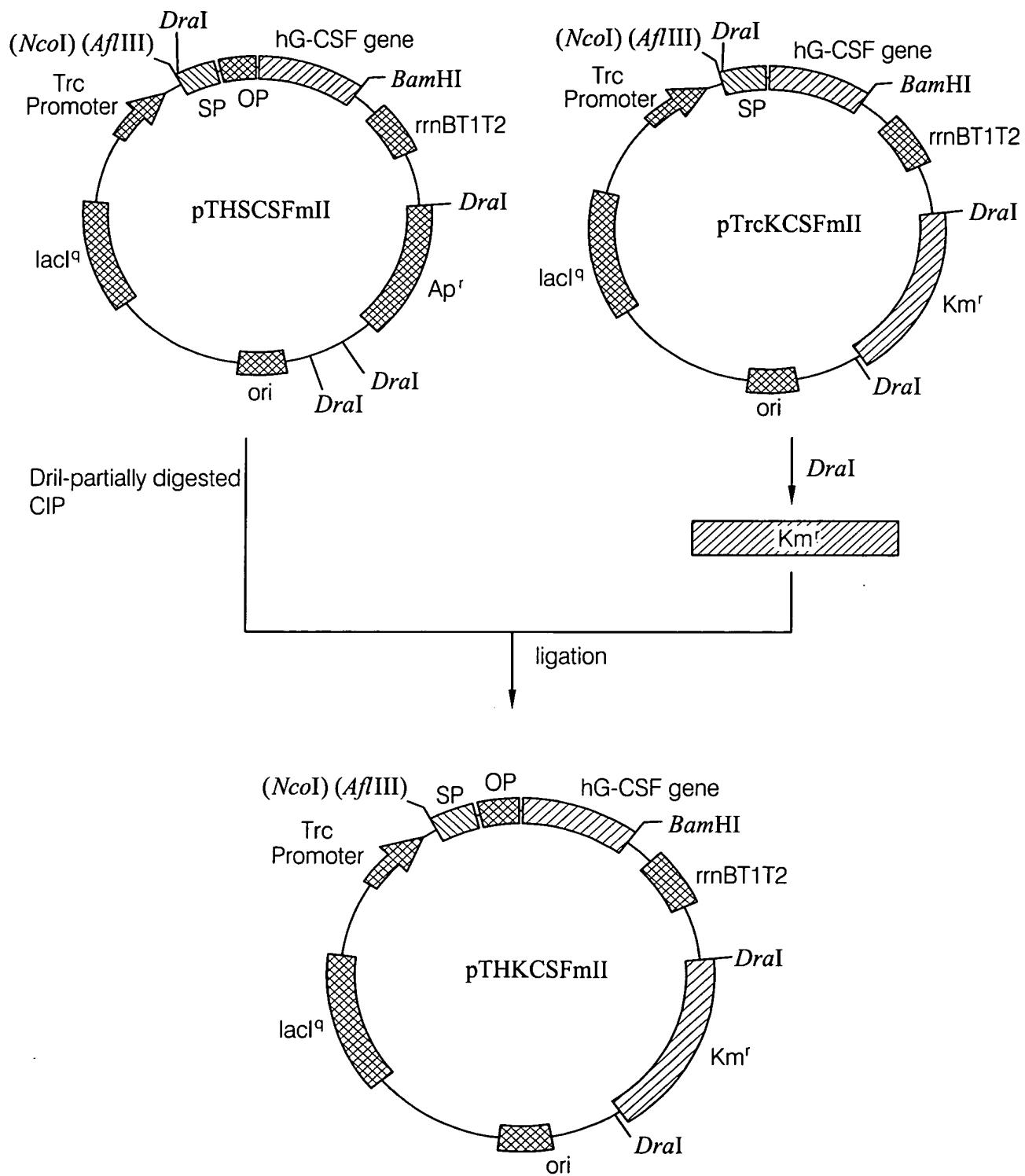


FIG. 13